Chapter 1 - Basic info

IMPORTANT CARE NOTES FOR THE CAMERA BODY

Maintenance and care of the camera

- Read instructions prior to use.
- Protect camera against shocks and falls by using the supplied neck strap whenever possible.
- Check the batteries frequently and always carry spares. The sealed batteries supplied with the camera may have been subject to storage conditions which have reduced their service life.
- Wipe battery contacts before installation and watch correct polarity.
- Battery life varies, depending on frequency of use, type, age, storage condition, ambient temperature (use external battery case in very cold weather), etc.
- Always remove the battery when camera is not used for a long period of time.
- · Always keep covers on lenses and camera body.
- Do not store the camera at temperatures exceeding 40°C (105°F) and -10°C (15°F).
 Avoid humid or sea air environments.
- Prolonged disuse shortens camera life. Periodically exercise the shutter (at different speeds), lens diaphragms (at different apertures) and focusing mechanism.
- Protect camera against rain and moisture.
- Do not touch lens surfaces. Use blower or lens tissue to remove dust particles.
- · Always test your equipment before going on important assignments.

The Importance of Proper Maintenance

The camera has mechanisms that are controlled by gears, levers, springs, etc., all of which require occasional lubrication. Ambient conditins can also affect these mechanisms, as well as the optical glass of the lenses. We recommend periodic servicing of the camera and lenses.

GETTING TO KNOW YOUR CAMERA SYSTEM

Product overview	12
Names of parts and functions	13
LCD Displays	14
Viewfinder LCD	15
Liquid Crystal Display	16
Basic description of home screen on digital back	17
Battery charger parts and functions	18
Note on batteries for camera (rechargeable vs. disposable)	19
Attaching the neckstrap	20
Using the eveniene shutter	21

PRODUCT OVERVIEW

Mamiya DM Systems are digital solutions for photographers who take their art seriously and passionately.

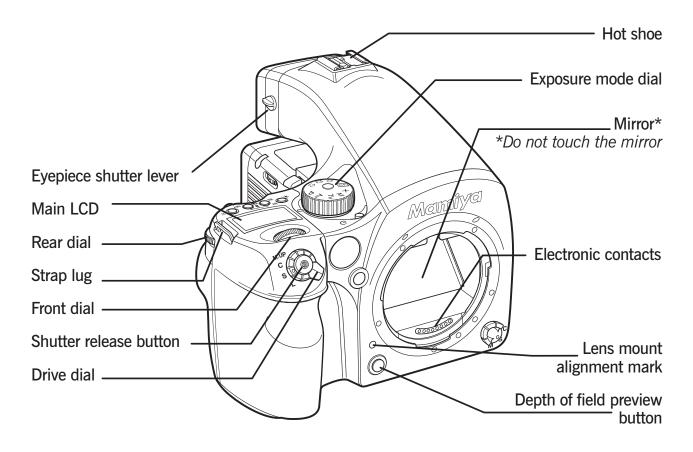
They have been manufactured to cater to photographers who want to take pro-level digital images with a professional feel that only a medium format system can provide. The Mamiya DM Systems boast 35mm handling and speed, fully customizable settings and top quality photographic results. Images are shot in 16 bit RAW files with high resolution, exceptional color accuracy and exquisite detail, of which not a single megapixel is squandered due to the premium quality 33, 28 and 22 megapixel sensors.

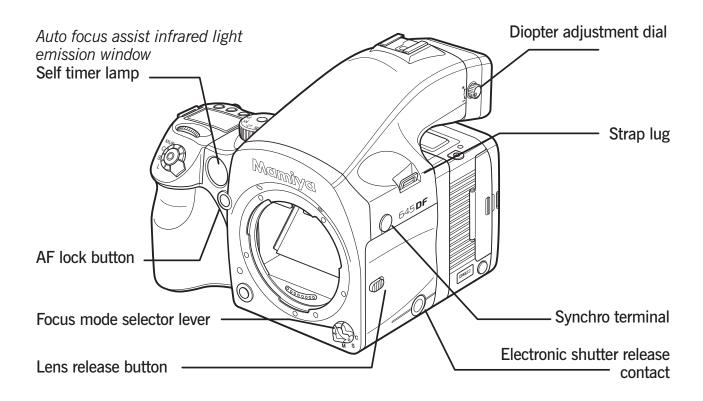
A comprehensive range of 16 precision lenses are available for the Mamiya DM System user, all constructed drawing on over 60 years of experience and innovation.

For demanding daylight situations, there are three leaf shutter lenses, developed in collaboration with renowned optical company Schneider Kreuznach.

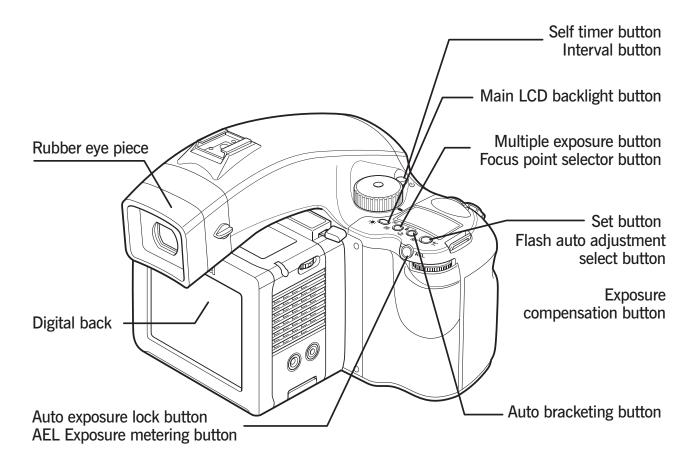
For other photographic genres, there are lenses suited for landscapes, portraiture, fashion, architecture, commercial and macro.

NAMES OF PARTS AND FUNCTIONS

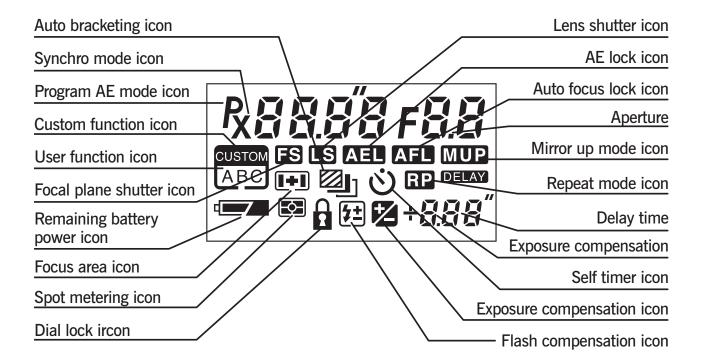




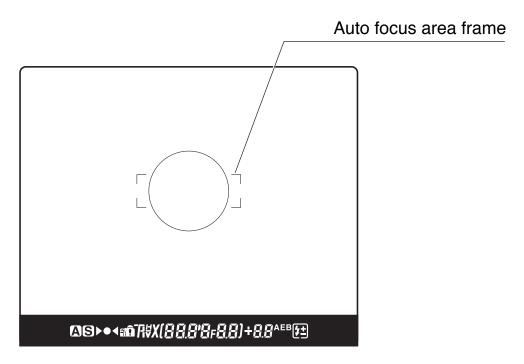
NAMES OF PARTS AND FUNCTIONS



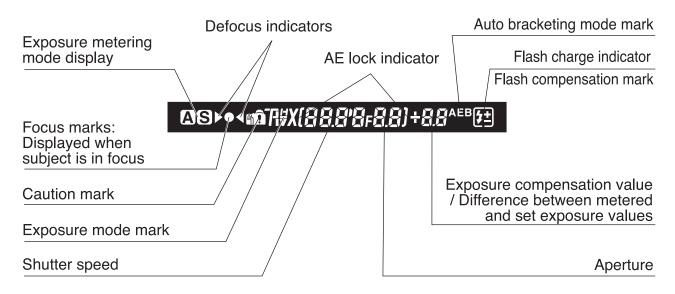
LCD DISPLAYS



VIEWFINDER LCD



During actual use, only the relevant icons and indicators are displayed.



During actual use, only the relevant icons and indicators are displayed.

LIQUID CRYSTAL DISPLAY



Due to the limitations of the space and letters, words and letters on the LCD are abbreviated.

Display examples of the main LCD

```
→ ON
Ũп
       → OFF
ΩF
Err
       → Error
       → + (Plus)
       → Under
        → Over
       → Normal
       → Lock
Lac
5ELF → Self Timer
bulb bulb
bu5y → Busy
       → Digital Back
15
       → Lens Shutter
68P —
       Capture
rP
       → Repeat
```

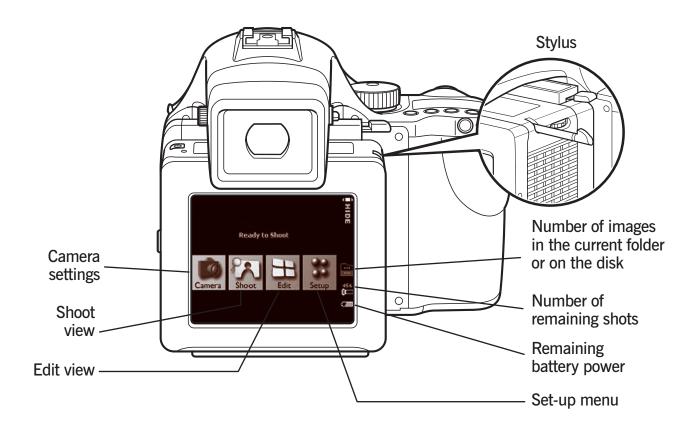
Display examples in the custom function mode

```
→ Selection
SEL
5Ł ₽ → Step
1-15 -
       Iris
HūLd ——► Hold
bàtt — battery
5tna → Shot No.
       → Dial function
d_R[ — Dial action
d_d! 		→ Dial direction
REFL → AE, AF lock
HRLF → Half press
#EL → AE lock
     → AF lock
RFL
OnEP —
      One-push exposure
#F_L → AF assist light
FL5⅓ — Flash sync
     → Buzzer
bu
5h.P → Shutter in Program

→ Shutter in Manual

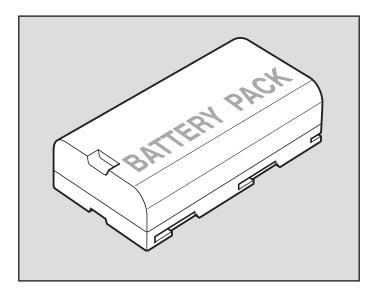
RF_2 AF second mode
```

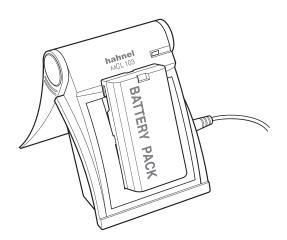
BASIC DESCRIPTION OF HOME SCREEN ON DIGITAL BACK



DIGITAL BACK CHARGER AND BATTERY

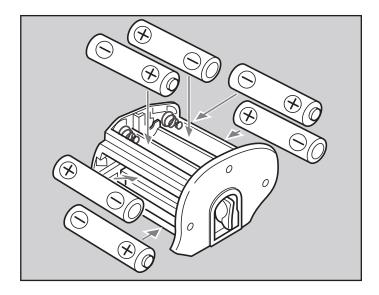
The Mamiya DM System is sold with a Haenel MCL 103 battery charger with 12 volt DC power supply and a set of 5 international socket plugs. The lithium ion battery is 2350Ah power.



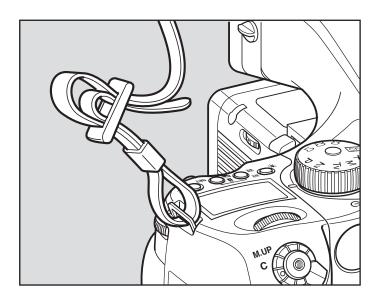


NOTE ON BATTERIES FOR CAMERA (RECHARGEABLE VS. DISPOSABLE)

In addition to disposible alkaline or lithium batteries, rechargeable nickel-metal hydride (Ni-MH) or nickel-cadium batteries can be used. In this case, custom setting 04 (battery type) on the camera body must be changed to #1 (Ni-CD, Ni-MH). Do not mix different types of batteries or old ones with new ones, and ensure the batteries are placed with the correct polarity.



ATTACHING THE NECKSTRAP



Put the neck strap through the mounts and secure it using the buckle as illustrated.

* After attaching the strap, pull it to make sure it does not loosen at the buckle.

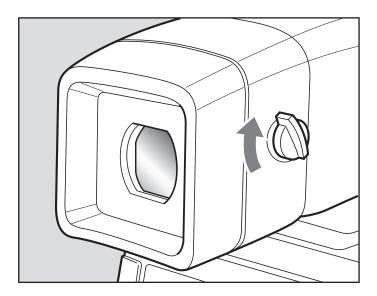


Caution:

To ensure safety, pull the ends of the strap taut, and check that they are fastened securely to the metal mounts on the camera.

USING THE EYEPIECE SHUTTER

Close the eyepiece shutter when there is a strong light source behind the camera or when pressing the shutter release button without looking through the viewfinder. (This prevents exposure error due to light entering from the viewfinder.)



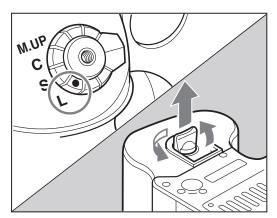
Turn the eyepiece shutter lever in the direction of the arrow.

PREPARING THE BATTERY AND COMPACT FLASH CARD

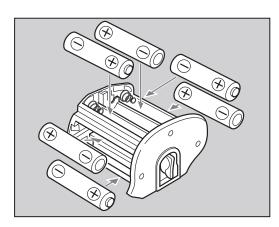
Inserting the camera batteries	24
Battery power icons	25
Camera sleep mode and battery care	26
Inserting and removing the digital back battery	27
Charging the digital back battery	28
Digital back battery power icons	29
Formatting the compact flash card in MAC	30
Formatting the compact flash card in windows	31
Inserting and removing the compact flash card	32
Attaching and removing a lens	34
Detaching the digital back	36
Adjusting the camera diopter	37
Replacing the diopter correction lens	38
Attaching to a tripod	30

INSERTING THE CAMERA BATTERIES

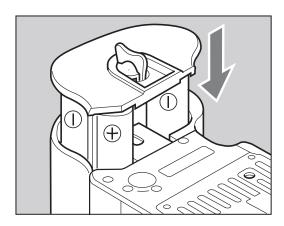
Set the drive dial to "L" to turn off the power. Use six "AA" alkaline or lithium batteries.



1. Lift the battery case lock lever, turn it counter clockwise and pull out the battery holder.



2. Insert the batteries while ensuring their polarities are properly aligned with the \oplus and \ominus markings on the battery case.



3. Return the battery holder to its case and lock it by turning the lever clockwise. Make sure it is fixed firmly in place.

BATTERY POWER ICONS

Set the drive dial to "S" to turn on the power.

Check the battery condition in the lower right corner of the main LCD.



The batteries are sufficiently charged.



There is little power remaining. Have new batteries on hand. Camera will still operate.



There is very little power remaining. Camera will stop operating soon.



* Set the shutter release mode selector lever to "L" (to turn the power off) and replace the batteries with



★When the batteries are spent, "batt" flashes on the main LCD and the viewfinder's LCD when the shutter release button is pressed.

* When replacing the batteries, be sure to use six new batteries of the same type. Do not mix different types of batteries or old batteries with new ones.

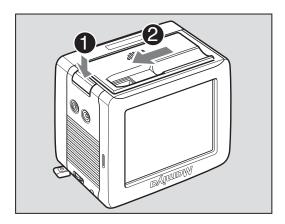
new ones.

CAMERA SLEEP MODE AND BATTERY CARE

- 1. Battery life of the originally supplied batteries is dependant on storage conditions.
- 2. Blots and fingerprints on terminals may cause loose connections and corrosion. Wipe the terminals before inserting the batteries.
- 3. We recommend carrying spare batteries in remote or foreign locations.
- 4. Battery performance decreases in low temperatures. Keep them warm when in cold climates or locations.
 - External battery case PE401 is available as an optional accessory.
- 5. Store the batteries in a cool and dry place, away from direct sunlight.
- 6. Remove the batteries from the camera body when not in use for a long time.
- 7. Replace the batteries with new ones as soon as they are spent. Liquid leakage from the battery may damage the camera.
- 8. Read the battery label warnings to ensure proper handling.

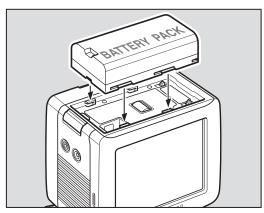
INSERTING AND REMOVING THE DIGITAL BACK BATTERY

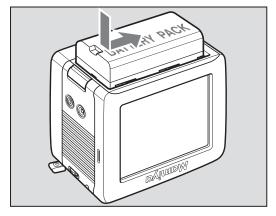
1. Press the button on the underside of the Mamiya DM digital back to remove the battery slot cover.



Removing the battery slot cover

2. Press the battery into the recess on the bottom of the Mamiya DM System digital back, and then slide it across until it snaps into place.





Inserting the battery

CHARGING THE DIGITAL BACK BATTERY

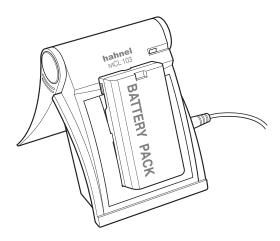
The lithium ion battery used with the Mamiya DM System digital back can be charged "using the MCL103 battery charger provided.

Charging the Battery Using the Haenel MCL103

To charge the battery with the 12V DC Power Supply:

- Connect one end of the 12V DC power supply cable to the Haenel MCL103 battery charger.
- 2. Connect the 12V DC power supply to a wall outlet, using the correct socket plug for the region.

Attention: Do not use any power supply cables other than the cable provided.



Many factors contribute to the amount of shots that can be taken with a single battery. The following will help increase the battery life:

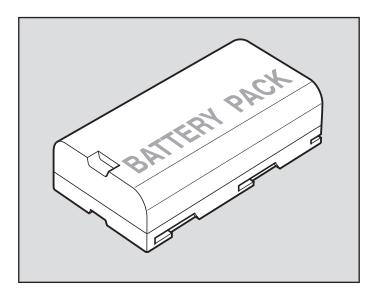
- 1. Set the Mamiya DM System to enter sleep mode, or turn it off when not in use.
- 2. Set the backlight on the digital back to turn off after the camera has been idle for a certain amount of time.
- 3. Avoid leaving the batteries in the Mamiya DM System when not in use.
- 4. Do not lock the mirror up unnecessarily.
- 5. Do not charge the Mamiya DM System batteries in extreme temperatures. Extreme temperature environments will affect both battery power and charging capacities. The optimal temperature for charging, using and storing batteries is 25°C/77°F.

DIGITAL BACK BATTERY POWER STATUS

Charging begins when the lithium ion battery is attached to the Haenel charger and the indicator light turns on. The indicator light begins to blink when the battery is 95% charged. Charging is complete when the indicator light turns off.

When charging the battery for the first time, be sure to charge the battery for 12 hours regardless of the indicator light turning off.

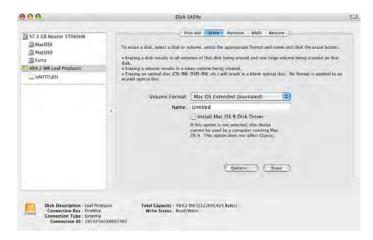
The battery should not be left in the charger when the charger is not connected to a power source. If a battery is left in an unpowered charger, the red indicator light on the charger and the green indicator light on the power supply are illuminated on the charger, giving the false impression that the battery is being charged. If the battery is not removed from the charger, the battery will be discharged.



FORMATTING THE COMPACT FLASH CARD IN MAC

Formatting in Mac OS X

- 1. Insert the compact flash card into the card reader or the digital back.
- 2. On the desktop, double-click the system disk.
- 3. Select Applications > Utilities > Disk Utility.
- 4. On the left panel of the Disk Utility dialog box, select the removable disk to be formatted.
- 5. Click the Erase tab.
- 6. In the Volume Format box, select MS-DOS (FAT32).
- 7. In the Name box, type MamiyaCF.
- 8. Click Erase.
- In the confirmation message that appears, click Erase.
 Formatting is complete when the progress bar disappears from view, the Volume
 Format box shows Mac OS Extended (journaled), and the Name box shows Untitled.
- 10. On the desktop, select the MamiyaCF volume.
- 11. Select File > Get Info.
- 12. In the MamiyaCF Info window, ensure that Format shows Macintosh PC Exchange (MS-DOS).
- 13. Close the Disk Utility application.
- 14. Drag the MamiyaCF volume to Trash.

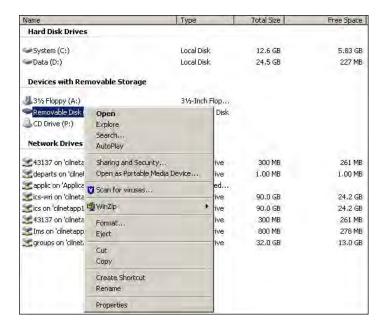




FORMATTING THE COMPACT FLASH CARD IN WINDOWS

Formatting in Windows

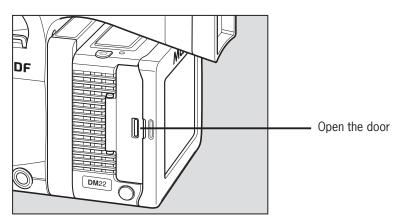
- 1. Insert the compact flash card in a card reader.
- 2. On the desktop, click My Computer. Preparing a Compact Flash Card for Shoot 13
- 3. Right-click Removable Disk, and from the menu, select Format.
- 4. In the Format dialog box, in the File System box, select FAT32.
- 5. In the Volume label box, type MamiyaCF.
- 6. Click Start.
- 7. When the format procedure is complete, go to the desktop and click My Computer.
- 8. Right-click Removable Disk, and from the menu, select Eject.



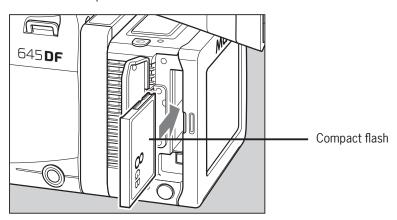


INSERTING AND REMOVING THE COMPACT FLASH CARD

1. Open the compact flash door.

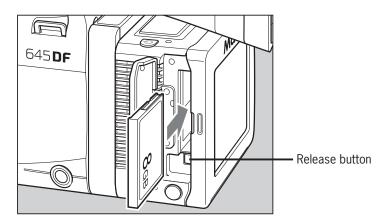


2. Insert the compact flash.



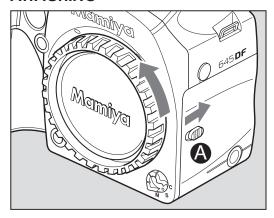
INSERTING AND REMOVING THE COMPACT FLASH CARD

Open the compact flash door, and then press the release button.

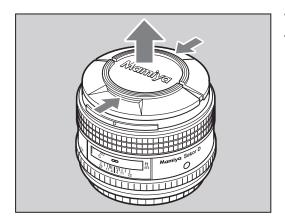


ATTACHING AND REMOVING A LENS

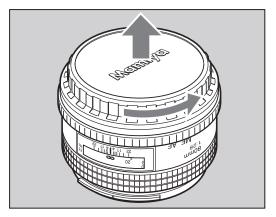
ATTACHING



1. Remove the front body cap, just like removing a lens, by pushing the lens release button (2) backward and then turning the front body cap counter clockwise and lift out.

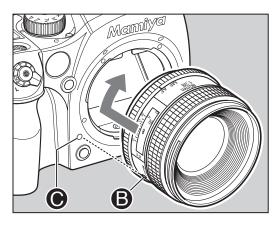


To remove the front lens cap, squeeze the shiny sections together and lift out.



To remove rear lens cap, turn it counter clockwise.

ATTACHING AND REMOVING A LENS



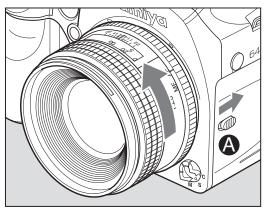
2. Line up the lens mount alignment mark

with mark

on the camera to fit the lens in place, then rotate it in the direction of the arrow until it clicks into place.

- **★** Do not touch the distance ring or other rotating parts when attaching the lens.
- * When installing a lens, do not press the lens release button

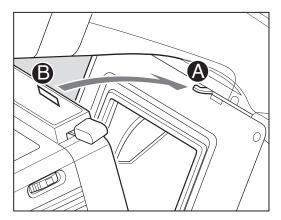
REMOVING



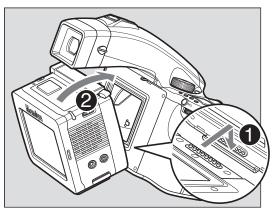
While sliding the lens release button back, rotate the lens counter clockwise until it stops and lift it off.

- * After removing the lens from the camera body, protect both ends by attaching the caps.
- * Oil, dust, fingerprints or water on the electronic contacts could result in malfunction or corrosion. Wipe such impurities off with a clean piece of cloth.

DETACHING THE DIGITAL BACK



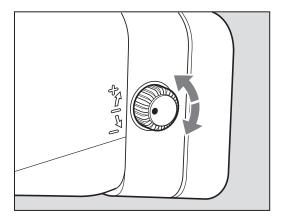
Rest the digital back on the lower ledge of the camera body so the camera body contact pins and digital back contact pins meet. Hold the digital back lever open (on the right side of the digital back) then press the upper part of the digital back ② to the camera body ③.



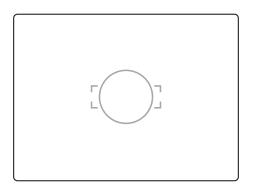
When detaching the digital back, pull back the detachment lever (found on the right side) and pull away from the camera body.

ADJUSTING THE CAMERA DIOPTER

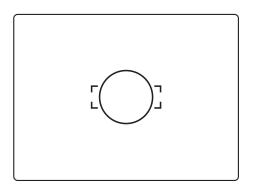
Look through the viewfinder and make sure that the focus frame (rectangle with circle) is in sharp focus. If it is not, turn the diopter adjustment dial in the "-" direction if you are nearsighted and in the "+" direction if you are farsighted. If this is not sufficient consider using an optional diopter correction lens. See below.



* Point the camera at a bright, plain object such as a white wall when making this adjustment.



Diopter not matching.

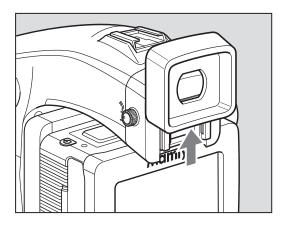


Diopter matching.

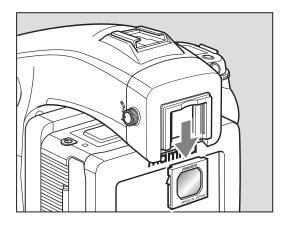
Range of adjustment of diopter correction lenses (optional accessory)

Diopter correction lens	Range of adjustment
DE401 (standard)	-2.5 to +0.5
DE402 (for nearsighted users)	-5.0 to -2.0
DE403 (for farsighted users)	0 to +3.0

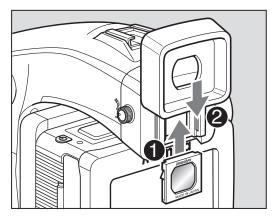
REPLACING THE DIOPTER CORRECTION LENS



1. Remove the rubber eye piece by sliding it upwards.



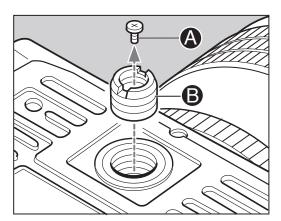
2. Remove the existing diopter by sliding downwards using the fingernail groove and detach.



3. Insert a new diopter by aligning it to the base of the diopter holder and sliding it upwards into place then reattaching the rubber eye piece.

- ★ If there is dirt or dust on the lens surface, remove it with a blower or sweep it off gently with a lens brush.
- **★** If there are fingerprints or dirt on the lens surface, wipe away with a piece of clean, soft gauze.
- * Using solvents could discolor the diopter correction lens frame.

ATTACHING TO A TRIPOD



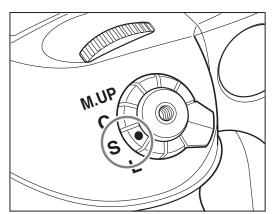
When using a tripod with 3/8" screw (instead of 1/4" screw) remove the small screw from the tripod screw hole on the bottom of the body using a plus screwdriver, then use a coin to remove the tripod screw adapter bushing .

BASIC CAMERA OPERATIONS

Turning on the camera	42
Using the shutter	43
About the drive dial	44
Using the front and rear dial	
Holding the system	46
Racklight hutton	47

TURNING ON THE CAMERA

1. Set the drive dial to "S" (single-frame advance mode).



The drive dial has an "S" (single-frame advance mode) setting and a "C" (continuous advance mode) setting. When set to "L," the power is turned off. When set to "M.UP", the mirror moves into the set postion.

USING THE SHUTTER

SHUTTER RELEASE BUTTON

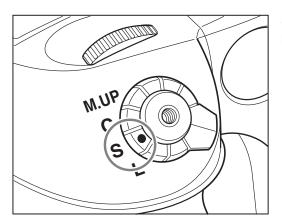
The shutter release button has a two-step action. The first step is the "half-press" (when the button is pressed lightly). When "half-pressed", the camera functions are activated. When the shutter button is pressed further down, the shutter is tripped. This position is called the 'release" position.



ABOUT THE DRIVE DIAL

SINGLE-FRAME MODE

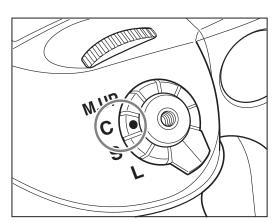
The film is advanced by one frame each time the shutter is released.



Set the shutter release mode selector lever to "S".

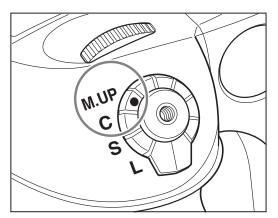
CONTINUOUS MODE

Photographs are taken continuously as long as the shutter release button is pressed.



Set the shutter release mode selector lever to "C" and hold down the shutter for continuous shooting.

MIRROR UP SHOOTING



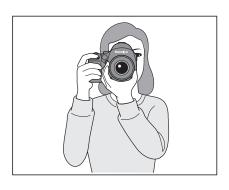
Press the shutter button to move the mirror up. Press the shutter button again to trip the shutter and take a picture.

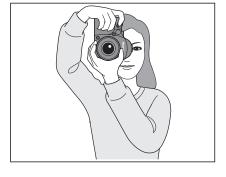
USING THE FRONT AND REAR DIAL

The front and rear dials can be used for selections within different photographic settings such as focus area, changing shutter speed and aperture, selecting exposure metering modes, choosing exposure compensations, choosing auto bracketing modes and designating times for mirror delay, the self timer and interval photography. For details on how to use the front and rear dial for the above mentioned sections, refer to their specific sections in this user's manual.

HOLDING THE SYSTEM

HOLDING THE CAMERA





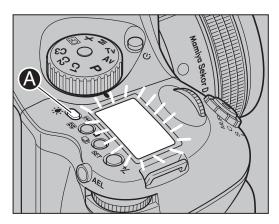
Horizontal

Vertical

Hold the camera still when taking photos to obtain sharp pictures.

- * Grasp the grip firmly, press both elbows against the body and support the camera at the bottom with the left hand.
- * At slow shutter speeds, or when using the self timer, it is best to use a tripod and a cable release or an electromagnetic cable release (optional accessories).

BACKLIGHT BUTTON



To see the main panel at night or in dark places, press the backlight button 2. The backlight will go on for approximately 20 seconds and then go off unless there is another operation.

- **★** If the backlight button **②** is held down for one second, the light will remain on until the button is pressed again.
- ★ When the backlight is on, the camera will not go into sleep mode, whereby draining the battery power.

5

FOCUSING THE CAMERA

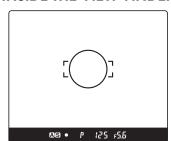
Focusing the camera	50
Focus area	51
Manual focus	52
Manual focusing using the focus mark	52
When auto focus fails	53
Using the auto focus function	54
AF Assist infrared light	5.5

FOCUS AREA

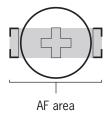
This camera enables the selection of the focus area, best suited to the kind of pictures that will be taken. The selected focus area can be checked on the external LCD panel.

F5.5 Focus point selection mark



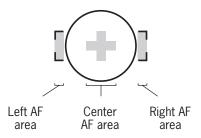


NORMAL FOCUS AREA



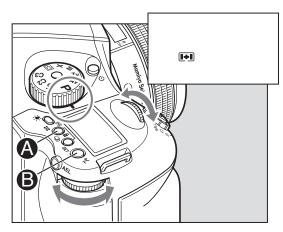
Bring the subject into focus inside the focus frame : mark on the viewfinder.

SPOT FOCUS AREA



Select the frame from among the I, + and I focus frame marks on the viewfinder, and bring the subject into focus.

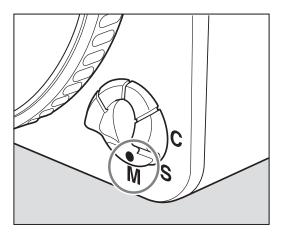
SELECTING THE FOCUS AREA



- 1. When focus point selector button (is pressed for 1 second, the focus point selection mark appears on the display.
- 2. Turn the front or rear dial, and select automatic selection • , left , center **⊕** or right **□**.
- 3. Press the SET ® or focus point selector button (a) to enter the setting.

MANUAL FOCUS MODE (M)

The auto focus function can be cancelled, in order to focus manually.

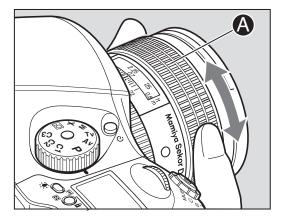


1. Switch to "M" (manual focus mode).

Turn the focus mode selector lever and set it to "M" (manual focus mode). M.F. appears on the external LCD panel.

2. Manual focus operation for telephoto and zoom lenses.

All Mamiya 645 AF Telephoto and Zoom lenses can be switched from Auto Focus to Manual Focus by sliding the focusing ring on the lens forward until it clicks. When this is done, the Auto Focus inscription on the lens barrel is covered and the lens can then be focused manually. When the Focusing Ring is set in this position the external LCD display on the top of the camera will show M.F. It is not necessary to set the Focus Mode Selector on the body to "M". To switch back to auto focus, simply slide the focusing ring back towards the camera and the Auto Focus inscription on top of the lens will again be visible. This method applies to Mamiya 645 AF Telephoto and Zoom lenses only.



3. Adjust the focus.

Turn the lens focusing ring $oldsymbol{\Omega}$ until the subject is in focus. When it is in focus, the

• focus mark lights in the viewfinder LCD.

MANUAL FOCUS MODE

MANUAL FOCUSING USING THE FOCUS MARK

(Focus confirmation method)

With the shutter release button half-pressed, turn the lens focusing ring to focus on the subject.

When the subject is in focus, the focus mark lights in the viewfinder's LCD.

If ▶ is lit in the viewfinder's LCD, the camera is focused on a point behind the object.

If **◄**is lit, the camera is focused on a point in front of the object.



IN FOCUS



TURN THE FOCUSING RING CLOCKWISE.

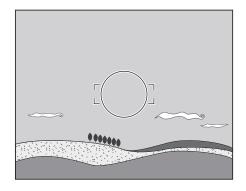


TURN THE FOCUSING RING COUNTERCLOCKWISE.

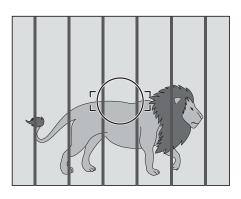
- **★** Use the focus mark when taking photos in manual focus mode or using the M645 manual lens.
- ★ If focus is adjusted using the focus mark with an M645 lens, be sure to open the aperture. This function can be used with a lens of f/5.6 aperture or higher.

WHEN AUTO FOCUS FAILS

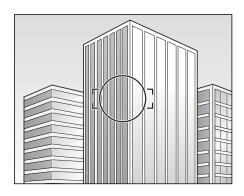
The Auto Focus function requires contrast on the subject. Auto Focusing may fail to achieve accurate focus with certain subjects described below. In such cases, either switch to the manual focus mode and focus manually, or bring into focus an object at the same distance as the object you want to photograph, lock the focus using the focus lock mechanism, then take the picture.



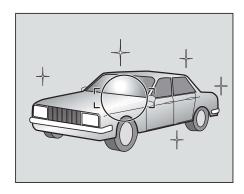
•Low-contrast subject (blue skies, white walls and other objects)



Two or more objects overlapping at different distances within the focus frame : (animals in cages, etc.)



• Subjects with continuous repeated patterns (building exteriors, blinds, etc.)



©Extremely backlit reflective subjects (car bodies, water surfaces, etc.)

9When the subject is far smaller than the focus frame

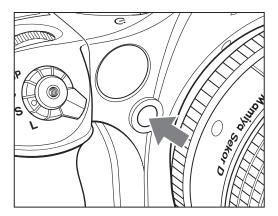
USING THE FOCUS LOCK FUNCTION

If the object to be focused on is not in the focus frame, the camera focuses on the background at the center. In such cases use the focus lock function to lock the focus before releasing the shutter.



1. Set the focus mode selector lever to "S" or "C."

Put the subject in the focus frame : : and halfpress the shutter release button.



2. Lock the focus.

When the • focus mark in the viewfinder LCD is lit, press the AF lock button on the front of the camera to lock the focus.



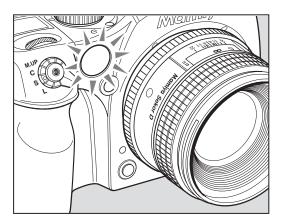
3. Adjust the composition.

With the shutter release button half-pressed, slide the camera to achieve the desired composition, and release the shutter.

★ When the focus mode is set at "S" (single focus mode) and the ● focus mark is lit, hold the shutter release button halfway down to lock the focus.

AF ASSIST INFRARED LIGHT

When the subject is dark or under-exposed and the camera fails to auto-focus, a red lamp may light up on the front of the camera when the shutter release button is half-pressed. This is a light that assists the camera's auto focus function.

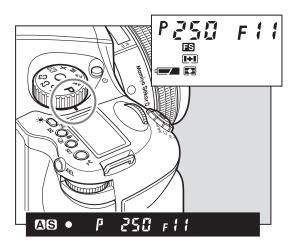


- ★ The AF assist infrared light is emitted only when the focus mode is set to "S" (single focus mode).
- ★ Effective range of the AF assist infrared light is limited. It does not reach distant subjects. Range: 9m/29.5 ft. (using 80 mm f/2.8 lens under test conditions)
- * When using a lens hood or a bellows lens hood (sold as an optional accessory) that may interfere with the assist light, set focus before mounting the hood.

Program AE	58
Aperture Priority AE (Av)	59
Shutter Priority AE (Tv)	60
Manual Mode (M)	61
Sync Mode	62
Custom Function Mode	63
Auto Mode mechanism	64
Exposure Metering Modes	65
Exposure warnings	66
Exposure compensation	67
AE Lock Mode	68
Auto Bracketing Mode	69
Taking photos with the mirror up	70
Mirror up delay	72
Self Timer Mode	74
Interval photography	75
Long Exposure Mode	76

PROGRAM AE (P)

The aperture and shutter speed are determined automatically for the optimum exposure, according to the existing ambient light. This mode is best suited for general photography, allowing the user freedom to concentrate on the subject.

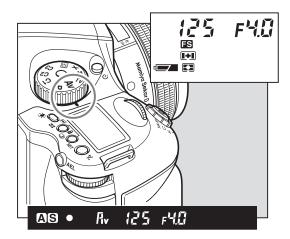


Turn the exposure mode setting dial to "P" (program AE) position.

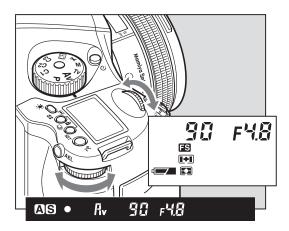
★ If a correct exposure cannot be obtained, the shutter speed and aperture value blink. In such cases, the pictures can be taken but they may turn out too bright or too dark.

APERTURE PRIORITY AE (AV)

Set the desired aperture and the camera selects the optimum shutter speed accordingly. Use the Av mode to maintain specific control over depth of field, i.e. taking portraits or landscapes.



1. Turn the exposure mode setting dial to "Av" (aperture priority AE) position.

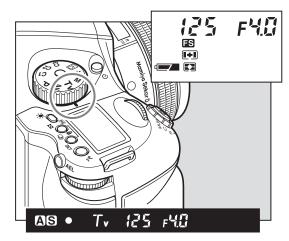


2. Turn the front or rear dial to set the desired aperture.

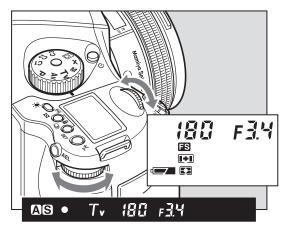
★ The shutter speed value will blink when the subject is too dark or too bright for a correct exposure. To obtain the correct aperture, adjust the aperture value until the shutter speed value stops blinking and remains lit.

SHUTTER PRIORITY AE (TV)

Set the desired shutter speed and the camera selects the optimum aperture accordingly. Fast shutter speed can be used to freeze motion, and slow shutter speed can be used to blur motion on purpose.



1. Turn the exposure mode setting dial to "Tv" (shutter priority AE) position.

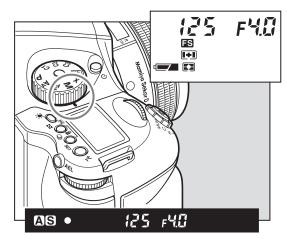


2. Turn the front or rear dial to set the desired shutter speed.

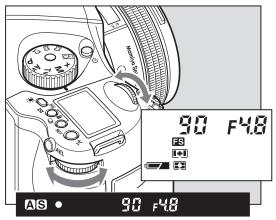
★ The aperture value will blink when the subject is too dark or too bright for a correct exposure. To obtain the correct aperture, adjust the shutter speed value until the aperture value stops blinking and remains lit.

MANUAL MODE (M)

This mode is used to set both the aperture and shutter speed for total exposure control. Varying shutter speeds can be selected, including "bulb", "tlME" and manually from 60 mins to 1/4000 sec. Aperture values can be set from maximum to minimum aperture.



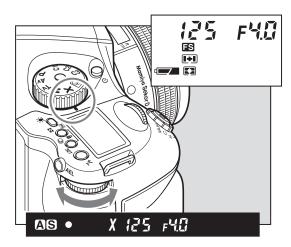
1. Turn the exposure mode setting dial to "M" (Manual) position.



- 2. Turn the rear dial to set the desired aperture.
- 3. Turn the front dial to set the desired shutter speed.

SYNCHRO MODE (X)

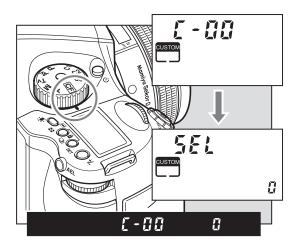
Select this mode when you use a flash. The shutter speed will be fixed at 1/125 sec. for synchronization. To adjust synchro speed, turn the rear dial.



- **★** When using a large flash unit for use in studios, changing the synchronizing speed is recommended.
- **★** When 1/800 sec. shutter speeds can not be achieved even though the leaf shutter lens is attached, try another exposure mode.

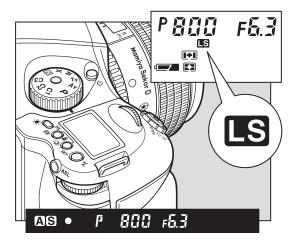
CF (CUSTOM FUNCTION) MODE

Both the camera functions and methods can be changed by using custom functions.



AUTO MODE MECHANISM

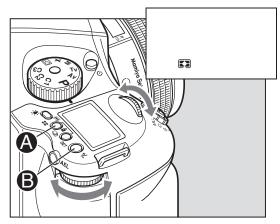
When using the leaf shutter lens, the leaf shutter's working range is from 1/800 sec. to 1 sec. For other speeds (1/4000-1/800 sec., 1-60sec., bulb) use the focal plane shutter.



EXPOSURE METERING MODES

There are three exposure metering modes to select a proper exposure modes to suit the subject's lighting condition.

How to select an exposure mode



- 1. Exposure mode mark is displayed when the exposure mode button (a) is pressed. Since three different exposure modes are displayed sequentially when either the front or rear dial is turned, select an appropriate exposure mode.
- 2. Press the SET button ③ or exposure metering mode button ③ to enter the setting.

Exposure Metering Modes

Average/spot auto exposure metering	 Exposure metering is performed after automatically selecting average/spot exposure metering. Depending on the subject conditions, centerweighted average/spot exposure metering is selected automatically, and the correct exposure is measured. Spot exposure metering is automatically selected when the brightness of the spot exposure metering range becomes darker than the brightness of the entire screen. If there is very little difference between the spot exposure metering value and center-weighted average exposure metering value, the correct exposure level is obtained as the intermediate value.
Center-weighted average/spot exposure metering	The average brightness of the entire screen is measured, emphasizing the center of the screen.
Center spot exposure metering	The brightness of an area equivalent to 7.6% at screen center is measured, and the exposure is determined. The circle at screen center serves as a general guideline. This mode is suited to measuring subjects with strong contrasts or measuring only screen portions.

EXPOSURE WARNINGS

With an inappropriate exposure setting, when shooting subjects that are too light or dark, the user is warned by the flashing external LCD or the LCD inside the viewfinder. At such times, the correct exposure cannot be obtained.

Warnings that the exposure is outside the metering range

O Program AE (P) The shutter speed and f-number blink.	P = 6" F4.0 =
O Aperture priority AE (Av)	Rv ≥30" £2.8
○ Shutter priority AE (Tv) The f-number blinks.	Tv 4000 FZB
O Manual mode (M) The exposure metering value difference is displayed.	4000F2

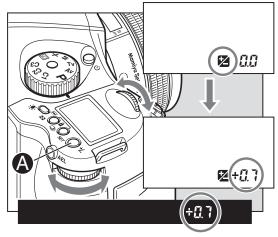


Important:

When a polarizing filter is used, ensure that a circular polarizing filter (circular filter: C-PL) is used. The correct exposure cannot be obtained with a normal polarizing filter (PL).

EXPOSURE COMPENSATION

In some situations, such as a great difference between the subject and background brightness or overall subject tones that will not meter correctly because they are all black or white, the resulting photograph may be under- or overexposed. When this occurs, use the exposure compensation function. Exposure compensation can also be used in order to intentionally create overexposed or underexposed pictures.



- 1. When exposure compensation button ② is pressed, ☑ appears on the external LCD. When the front or rear dial is turned counterclockwise, the exposure is increased; conversely, when it is turned clockwise, it is decreased. The exposure compensation value can be checked on the external LCD or LCD inside the viewfinder.
- 2. After taking the pictures, press exposure compensation button ② again to return the exposure compensation value to 0. The exposure compensation value mark on the external LCD is cleared, and the exposure compensation function is released.
- * Exposure compensation is also possible during AE lock.
- * The shutter speed changes with exposure compensation in manual mode ("M").

Display of the exposure compensation of the viewfinder LCD

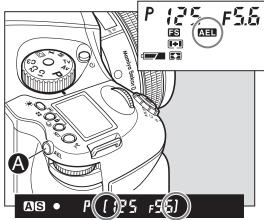
(When a Metz flash is not equipped.)

Exposure mode		Exposure compensation display	
Р	Program AE		
Av Aperture Priority AE		The set value is displayed.	
Tv Shutter Priority AE			
M Manual Mode		The difference between the metered value and the set exposure value is displayed.	
X Synchro Mode		Not displayed.	

AE LOCK MODE

Shooting with the AE lock function is useful in cases where the desired focal point differs from where the focal point is usually measured, or when it is necessary to measure the exposure using spot metering in order to bring the desired subject into focus.

The AEL button will lock the Auto-exposure value as the photo is being recomposed.





125

AS •



- 1. Turn the exposure mode setting dial and select "P", "Av" or "T".
- 2. Focus on the subject for metering exposure, and press the AEL button ② on the rear of the grip. () will appear on the viewfinder LCD, indicating that the exposure value is locked.
- 3. Move the camera to recompose the shot, then take the picture.
- 4. By pressing the AEL button ②, AE lock will be cancelled.
- ***** () on the viewfinder LCD blinks to indicate the exposure is locked, when continuing to take the next picture in the AE lock mode.
- ★ When the shutter release mode selector lever is turned to the "L" (power OFF) position, or after a lapse of one hour, the AE lock mode will automatically be cancelled.
- ★ In the Manual "M" exposure mode, the AE lock function cannot be used.
- ★ When the exposure metering value difference display appears, press AEL button ② for about 1 second. The onepush shift function is now activated to shift to the shutter speed based on the metered result.

Metered-value difference indicator

Keep pressing the AEL button **(a)**, and the difference between the metered exposure value and the exposure of the new composition will be displayed on the viewfinder LCD. This function can be used to see if an object of very different brightness levels can be properly captured.









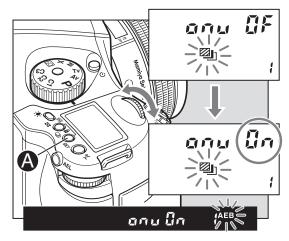
★ If the difference between the set value and the metered value exceeds 6EV, the viewfinder LCD blinks "- u -" for underexposure and "- o - " for overexposure.

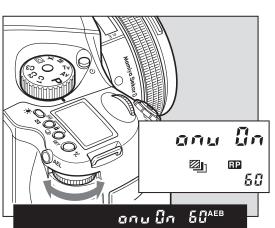
By turning the front or rear dial in the AE lock mode, the aperture and shutter speed value can be changed without changing the exposure value that is set when entered into AE lock mode. In the "P" mode (Program AE) mode, turning either the front or rear dial shifts the program to "PH" and "PL." When in "Av" (Aperture priority AE) or "Tv" (Shutter priority AE), turning one of the dials changes both the aperture and shutter speed values.

★ Exposure compensation and auto bracketing function can be used when the camera is in the AE lock mode in normal operation or with the mirror locked up.

AUTO BRACKETING MODE

When in situations where it is difficult to determine the best exposure compensation, it is advisable to change the exposure setting gradually (from normal to under and over). Continuous turning up of the values eventually leads to auto bracketing.





1. Turn the shutter release mode selector lever to the "S" or "C" position.

When set at the "S" position, one frame can be shot with each press of the shutter release button. In the "C" mode, the camera takes three (or two) frames successively with one press of the shutter release button.

2. By pressing the auto bracketing button, auto bracketing mode is selected.

In the main LCD, the auto bracketing mark will flash on and off. As it is flashing, turn the front dial to "On".

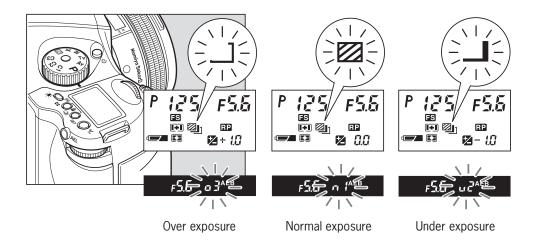
3. By further turning, more values can be selected.

The rear dial can also be used for setting. From 1 to 10 turns the value increases in single units, while 10 to 60 turns means increases by units of 10. "On" allows unlimited values to be set.

- * After multiple turns, the mark "RP" will appear in the main LCD.
- * Repeat turning will lead to a countdown being displayed on the main LCD and after taking a photo the camera will return to auto bracketing mode.

4. Press the shutter button, and take the pictures.

When the shutter button is pressed during shooting in auto bracketing mode, the shooting sequence and auto bracketing mark blink on the LCD inside the viewfinder. Furthermore, the auto bracketing mark blinks, the bracket step width is displayed, and the shooting sequence can be checked on the external LCD.



5. Press the auto bracketing button, then turn the front dial to "OF" to cancel.

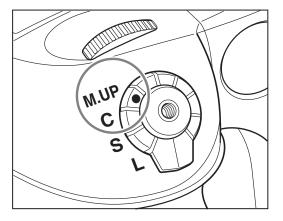
Then press the auto bracketing set button or half-press the shutter button to return to the normal display mode.

TAKING PHOTOS WITH THE MIRROR UP

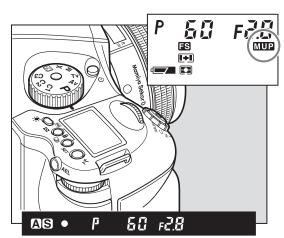
This function prevents mirror-caused vibrations which may blur the image in close-up photography, when shutter speed is slow, when a telephoto lens is used, or when photographing a poster or another picture.

When using the mirror up, electromagnetic cable release RE401 (optional) is recommended.

Using auto focus and auto exposure



- 1. Set the drive dial to "M.UP."
- 2. Select "S" (single focus mode) by turning the focus mode selector lever.
- 3. Turn the exposure mode-setting dial to choose any of "P", "Av", or "Tv" exposure mode.
- 4. Focus the subject, and determine composition and exposure.

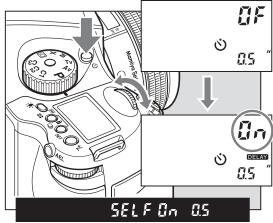


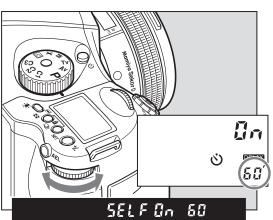
- 5. The mirror moves up when the shutter button is fully pressed.
- 6. Press the shutter button again to take pictures.

- * Auto bracket exposures can be made when the auto bracketing mode is set before taking photos with mirror up.
- * After the set time, mirror up photography will be cancelled.
- **★** The mirror will return to the original position if the lens is removed from the camera body.

MIRROR UP DELAY

To change from the self timer setting to the mirror up setting, press the shutter button so the mirror goes into the upright position and once the set time has expired the shutter will release, and the mirror will return to the lower position. Separately purchased electronic cable release RE401 can be used to eliminate camera shake.



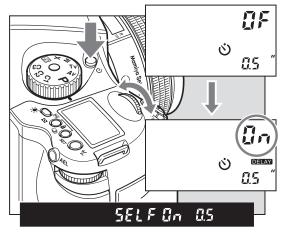


When using auto focus the operational method is the same as 1 to 3.

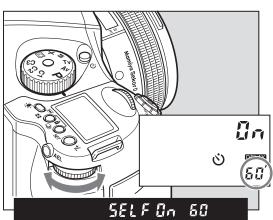
- 1. Press the self timer button and turn the front dial to "On"
- 2. Turn the rear dial to select the time needed. 0.5/1 second to 10 seconds allows for increases by the second, while 10 to 90 seconds increases by 10 seconds per turn. For 2 to 10 minutes the value increases by the minute and 10 to 60 minutes increases by 10 minutes per turn.
- 3. Line up the photograph through the viewfinder and half press the shutter button to ensure the focus and framing is correct.
- 4. Press the shutter button completely and the mirror will go to the upper position, then after the set time the shutter will release and the mirror will return to the lower position.
- **★** To cancel mirror up delay photography, turn to the drive dial to any setting other than "M.UP" or turn the self timer setting off.
- * By turning the drive dial to the "M.UP" setting (mirror up mode) and selecting the self timer setting, mirror up delay photography can be taken. Another method is to select self timer then turn the drive dial to "M.UP".

SELF TIMER MODE

Once the shutter button has been pressed, the shutter will release after the selected time has passed. The self timer lamp will blink, and three seconds prior to when the shutter releases, the blinking will flash more rapidly. This is a useful function for the photographer to be able to take commemorative shots of his or herself.



- 1. Make sure the camera is firmly attached to the tripod.
- 2. Press the self timer button to set the self timer mode to "".
- 3. Turn the front dial until self timer mode is set to "On"



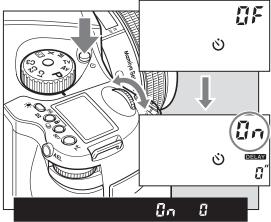
- 4. Turn the rear dial to select the countdown time. 0.5/1 second. to 10 seconds is selectable by the second, 10 seconds to 90 seconds is selectable by units of 10 seconds, 2 minutes to 10 minutes is selectable by the minute while 10 to 60 minutes is selectable by units of 10 minutes.
- 5. Check the view through the viewfinder to ensure the image area and focusing are correct then press the shutter button. The shutter will release after the selected time frame.

Releasing self timer mode

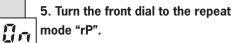
- 1. Press the self timer button to set self timer mode.
- 2. Turn the front dial to "OF."
- **★** To release the self timer while it is operating, turn off the power (by setting the drive dial to "L").
- * When there is bright light source behind the camera or when you press the shutter button without looking through the viewfinder, light may enter from the viewfinder's eyepiece, adversely affecting the exposure metering. Turn the eyepiece shutter open/close knob to close the eyepiece shutter, then take the pictures.
- * Mirror up delay photography can be achieved after setting self timer mode by turning the drive dial to "M.UP" (Mirror up mode).

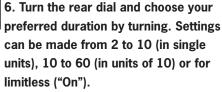
INTERVAL PHOTOGRAPHY

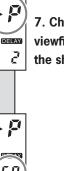
By repeated turning, the interval time can be set automatically. It can be set to suit scenes such as cloud movement or views of insects in action.

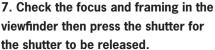


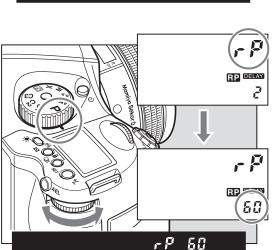
- 1. Ensure the camera is firmly secured on a sturdy tripod.
- 2. Hold and press the interval button for the interval mode.
- 3. Turn the front dial to display interval mode as "On".
- 4. Turn the rear dial to set the interval time. Settings include 0 seconds (no interval time), 1 to 10 seconds (increased by the second), 10 to 90 seconds (increased in units of 10), 2 to 10 minutes (increased by the minute) or 10 to 60 minutes (increased in units of 10 minutes per turn).











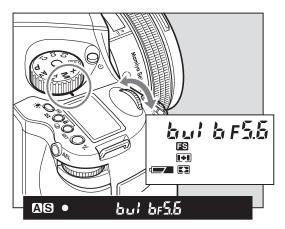
Un

* Repeat turning (according to the number of times) will lead to a countdown appearing in the display.

 \odot

LONG EXPOSURE MODE (BULB MODE)

To expose film longer than 30 seconds, adjust the shutter speed to "B" (bulb). In order to prevent camera shake, use an electromagnetic shutter release and tripod.



- 1. Turn the exposure mode dial and set it to "M" (manual mode).
- 2. Turn the front dial to select "bulb", then turn the rear dial to set the aperture.
- 3. Determine the composition, focus, then take the picture. The shutter remains open as long as the shutter release button is pressed.
- * As the camera is electronically controlled even during exposures, it is recommended to replace batteries before bulb exposure.

Flash photography	178
Rear curtain sync	179
Flash compensation settings.	180

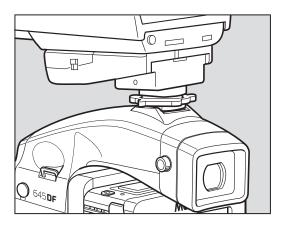
FLASH PHOTOGRAPHY

In addition to its standard flash sync system, the Mamiya DM System's camera features TTL (through the lens), electronic flash exposure metering. A flash sensor located inside the camera body reads the flash reflected off the sensor at the moment of exposure. The sensor is connected via the Mamiya DM System camera's dedicated hot-shoe to a shoe- or handle-mount style Metz flash unit via the Metz SCA 3952 TTL Adapter. Maximum flash sync speed is 1/125 sec., making daytime synchronization possible.

To utilize the TTL flash feature with all TTL-operable Metz flash units, a Metz SCA 3952 Module is required. Please see the chart below for compatibility and/or additional adapters that may be necessary.

The resulting flash exposure automation determines correct flash exposure and automatically adjusts the output of the flash. It also automatically corrects for exposure compensation normally required when using filters, close-up bellows or extension tubes.

Adapter Metz Flash Unit	Type of Flash	SCA3952S ModuleC	CA3000C onverter
Metz 44 MZ-2	Shoe-mountx		
Metz 54 MZ-3	Shoe-mountx		
Metz 45 CL-3 and -4	Handle-mounts	(Х
Metz 60 CT-4	Handle-mounts	(Х
Metz 70 MZ-5 and -4	Handle-mounts	c	



- 1. Mount the SCA3952 adapter onto the Metz flash, insert fully into the camera's hot shoe, then tighten with the locking knob ②.
- 2. Set the exposure mode, then check the shutter speed and aperture.

Exposure mode		Shutter speedA	perture	
Р	Program AE	Automatically set by camera to 1/60 sec. when the metered shutter speed is 1/60 or slower.	Automatically set by camera	
Αv	Aperture Priority AE	and 1/125 when it is 1/125 sec. or faster.	Any aperture	
Tv	Shutter Priority AE	Automatically set by camera to 1/125 when the	Automatically set by camera	
М	Manual Mode	Manual Mode set shutter speed is 1/125 sec. or faster.		
Х	Synchro Mode	1/60 to 1/125 sec.	Any aperture	

* With TTL flash photography, the reflection of the flash is metered and the intensity of the flash is adjusted automatically, so TTL flash photography may not be suitable to all conditions. In the cases described below, we recommend using a flash meter to check the intensity of the flash or to use a manual flash setting.

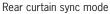
REAR CURTAIN SYNC MODE

Use the Rear Curtain Sync Mode for any of the below conditions:

- 1. When the size of the subject you want to light with the flash is relatively small within the picture
- 2. When the background behind the subject is extremely bright or when there is a strongly reflective object in the background
- 3. When the background behind the subject is extremely dark (outdoors at night, etc.)
- 4. When light from the flash is incorrectly directed and falls too widely from the subject.

When a moving subject has been shot under this function, the flash of light appears after the moving subject.



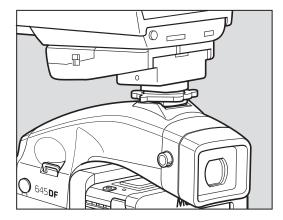




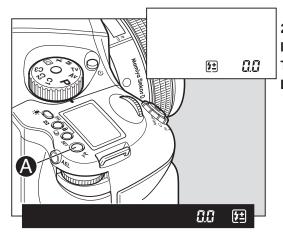
Front curtain sync mode

FLASH COMPENSATION SETTINGS

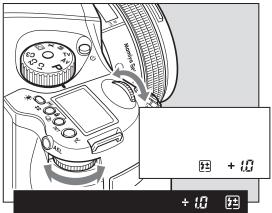
By combined use of a Metz flash and the SCA3952 adapter, the camera adjusts for flash. It can be adjusted within $\pm 3EV$ in increments of 1/3 steps.



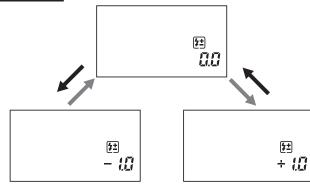
1. Turn on the power.
Install the SCA3952 adapter on the
Metz flash, and put it on the camera
then lock the flash in place using the
locking knob on the flash shoe. Turn the
shutter release mode selector lever to
the "S" or "C" position, and turn ON the
flash power switch.



2. When the flash charge confirmation lamp lights, press the set button (a) in. The " (±)" display appears on the main LCD panel.



3. Turn the front or rear dial to select the flash compensation value.

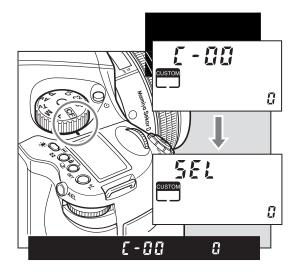


Setting custom functions	182
Initializing user functions	183
Camera custom functions quick guide	184
Types of custom functions	125

SETTING CUSTOM FUNCTIONS

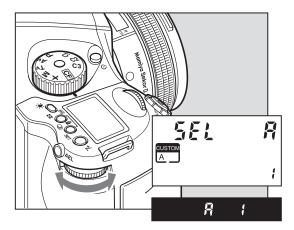
The custom functions allow you to change the method for using or accessing the camera functions as you like. Take photographs the way you are most comfortable with. The custom functions can store separate settings for 3 users. You can preset the functions for indoor, outdoor or portrait photographs and for other conditions. When at C-OO, chose 1 (A), 2 (B), or 3 (C) to store a specific set of user function selections for the group of custom settings from C-O1 to C-19.

However, if you set C-00 to 0, the settings used will be the default set.

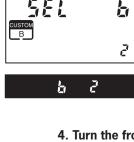


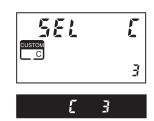
- 1. Turn on the power.

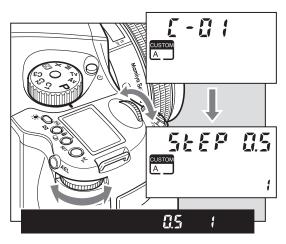
 Turn the shutter release mode lever to the "S" or "C" position.
- 2. Turn the exposure mode dial to select "CF" (Custom Function mode).



3. Turn the rear dial to select the settings for user A, B, or C.

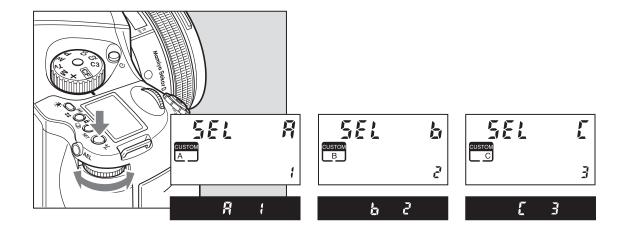






- 4. Turn the front dial to select the item you want to set.
- ***** There are 19 items from C-01 to C-19.

INITIALIZING USER FUNCTIONS



- 1. By turning the exposure mode dial, "CF" (custom function mode) can be selected.
- 2. By turning the rear dial, user "A", "b" or "C" can be selected.
- 3. Press and hold down set button (for longer than 1 second) and settings for A,B,C can be initialized, or the settings can be returned to "default".
- * The default user setting is "User 0".

CAMERA CUSTOM FUNCTIONS QUICK GUIDE

No.	Item	Initial setting (0)	1	2	3
C-00	Custom Function User	Last used	User A	User B	User C
C-01	Steps of aperture, shutter speed, Exposure compensation	0.3 1/3 EV step	0.5 1/2EV step	1.0 1 EV step	
C-02	Aperture setting after lens change	Previous aperture value	Open	Minimum	
C-03	Time to sleep	15 sec.	30 sec.	60 sec.	ON
C-04	Battery type	Alkaline	NiMH or NiCD	Future feature	
C-05	Auto Bracketing steps	3	5	7	
C-06	Front/Rear dial function exchange in manual mode	Front: TV Rear : AV	Front:Av Rear :Tv		
C-07	Disable Rear dial in P mode	Yes	No		
C-08	Dial Function direction	No switching	Switched CCW: Increase CW: Decrease		
C-09	AEL & AFL button exchange	Front: AFL Rear : AEL	Front: AEL Rear : AFL		
C-10	Shutter half-press function	AF operation	AF operation & AE Lock	OFF (no function)	
C-11	AEL function lock/unlock mode	Continuous	One shot	While the shutter button is pressed	
C-12	AFL lock mode setting	Set with AF lock only	AF operation	Continuous	
C-13	One push function M- Mode	Shutter speed shift	Aperture value shift	Off	
C-14	AF assist beam	Fires	Does not fire		
C-15	Flash sync. timing	Front Curtain	Rear Curtain		
C-16	Веер	ON (AF)	ON	OFF	
C-17	Choose shutter function (P, Av or Tv mode)	Mixed. (When inside the range of the leaf shutter lens)	Only Leaf shutter	Only Focal plane shutter	
C-18	Shutter function in Manual mode	Mixed. (When inside the range of the leaf shutter lens)	Only Leaf shutter	Only Focal plane shutter	
C-19	AF Speed	High Speed mode	High accuracy mode		
C-97	Mamiya ZD digital back support	NO Mamiya ZD back	Mamiya ZD back		
C-98	Lens Firmware version				
C-99	Body Firmware version				

TYPES OF CUSTOM FUNCTIONS

C-00 Custom functions profile [SEL]

- 0: None (default=0)
- 1: A
- 2: B
- 3: C

When "0" has been selected and set, none of the custom items can be set.

C-01 EV-Steps [StEP]

This function is used to set the size of increments concerning the shutter speed, f-number and exposure compensation value.

- 0: 0.3 (1/3EV step: default setting)
- 1: 0.5 (1/2EV step)
- 2: 1.0 (1EV step)

C-02 Lens change [IrIS]

This function is used to set the f-number display method for the previously used lens when the lenses have been interchanged. The default setting is "0" in which case the f-number of the lens prior to the changeover is displayed.

- 0: Previous f-number
- 1: Aperture open
- 2: Minimum aperture setting

C-03 Sleeptimer [HOLd]

This function is used to set the time for sleep mode to be established after the camera's power is turned on. The default setting is 15 seconds.

- 0: 15 seconds
- 1: 30 seconds
- 2: 60 seconds
- 3: Disabled

The batteries will continuously lose power when "On" (no sleep mode) has been set.

C-04 Battery Type [batt]

This function is used to set the batteries used in the camera so that the remaining battery charge will be displayed correctly on the external LCD panel.

- 0: Alkaline
- 1: Ni-CD, Ni-MH
- 2: Li-ION

(ONLY FOR USE WITH VERTICAL GRIP)

C-05 Bracketing [Stno]

Setting bracket's width for auto bracketing setting

- 0: 3 Exposures
- 1: 5 Exposures
- 2: 7 Exposures

C-06 Front/Rear dial [dF]

This function is used to interchange the functions of the front and rear dials in the M (manual mode).

- 0: Front dial: TV, rear dial: Av [OF]
- 1: Front dial: AV rear dial: Tv [On]

C-07 Rear dial in P mode [d_AC]

Initializing the P mode on the rear dial then changing the function to the front dial will cancel out P mode function on the rear dial.

- 0: Enable
- 1: Disable

C-08 Dial Direction [d_dl]

This function is used to determine the direction in which the electronic dial is to be rotated to increase and decrease shutter speed, the f-number, and exposure compensation.

- 0: CW: Decrease [OF]
- 1: CW: Increase [On]

C-09 AEL & AFL button [AEFL]

This function is used to set whether to interchange the operations of the front and rear AEL and AFL buttons.

- 0: Default setting
 - (front: AFL, rear: AEL) [OF]
- 1: Switched (front AEL, rear: AFL) [On]

TYPES OF CUSTOM FUNCTIONS

C-10 Release button [HALF]

This function is used to set the AE lock and AF operations when the shutter release button is half-pressed.

- 0: AF operation (default setting)
- 1: AF & AE operation
- 2: Only shutter release

C-11 AEL function lock/unlock mode [AEL]

This function is used to set the method of operating the AEL button to lock AE. At the default setting, when the AEL button is pressed, AE is locked; pressing the button again releases the AE lock. At the "1" setting (released after one shot), after AE lock is set, it is released when the shutter is triggered. At the "2" setting, AE lock is only kept while the AE lock button is being pressed.

- 0: One shot
- 1: Continuous
- 2: While pressed

C-12 AFL [AFL]

This function is used to set the AF lock method when the AFL button is operated. AF >< Lock is activated with one press of the auto-lock button then deactivated with a second press.

- 0: While pressed (default setting)
- 1: AF operation
- 2: Continuous

C-13 M-mode AEL [OnEP]

When using M (manual mode) one push function, the shutter speed or aperture value can be set automatically by pressing AEL button.

- 0: Shutter speed shift [tv]
- 1: Aperture value shift [Av]
- 2: No [no]

C-14 AF assist setting [AF_L]

The AF auxiliary light fires automatically when the subject is too dark to perform AF, but this function can be used to prevent the AF auxiliary light from firing.

0: On [On]

1: Off [OF]

C-15 Flash sync. [FLSY]

When shooting moving subjects with flash you can set the synchronization timing. This allows you to have the flash fire at the beginning of the exposure or at the end of the exposure.

- 0: First (default setting)
- 1: Second

C-16 Beep [bu]

When the SET button is pressed a beep sounds 0: ON (AF) (Default setting)

- 1: ON
- 2: OFF

C-17 Shutter TV, AV & P [Sh_P]

When using P, Av or Tv mode and the leaf shutter lens is attached but you prefer to use the focal plane shutter.

- 0: Mixed. Default (Focal Plane shutter operation at < 1S)
- 1: Leaf shutter
- 2: Focal plane shutter

C-18 Shutter in M & X [Sh]

When initializing the setting, use of the lens shutter (and its respective ranges) or the focal plane shutter can be chosen when the leaf shutter lens is attached.

- 0: Mixed. Default (Focal Plane shutter operation at < 1S)
- 1: Leaf shutter
- 2: Focal plane shutter

C-19 AF Priority [AF_2]

Accuracy of auto-focusing priority (default setting) or speed priority can be decided.

- 0: Speed
 - (Aperture to f/ 8 is recommended when using this function.)
- Accuracy (default setting)
 recommended for lenses with long focal
 length

TYPES OF CUSTOM FUNCTIONS

C-97 Support for Mamiya ZD backs

This function should ONLY be activated when shooting on a Mamiya ZD back.

- 0: Default setting NO Mamiya ZD back on the camera body
- 1: Mamiya ZD back on camera body

C-98 Lens firmware version

The current firmware version can be checked.

C-99 Body firmware version

The current firmware version of the body can be checked.

Liquid Crystal Display

Due to the limitations of the space and letters, words and letters on the LCD are abbreviated.

```
Display examples of the main LCD
On.
      → ON
ΩF
    OFF
Err
    ——► Error
    ÷

→ Under

      Over
       → Normal
Loc ──Lock
5ELF → Self Timer
bulb → bulb
bu54 → Busy
    → Digital Back
db
15
    — Lens Shutter
[3P → Capture
rP
    bdtt → battery
```

Display examples in the custom function mode

```
SEL
   — Selection
5೬EP → Step
1 - 1 5 ---- Iris
HOLd → Hold
bått → battery
5≿na —→ Shot No.
#EFL → AE, AF lock
HRLF → Half press
REL → AE lock
RFL

→ AF lock

GnEP → One-push exposure
#F_L → AF assist light
FL5¥ — Flash sync
bu ── Buzzer
5h_P → Shutter in Program
5h Shutter in Manual
#F.2 	→ AF second mode
```

Camera specifications	190
Digital Back specifications	191
Trouble shooting	193

CAMERA SPECIFICATIONS

Camera type : 6 x 4.5cm format, electronically controlled focal-plane shutter, TTL multiple mode AE, AF single

lens reflex

Actual image size : 56 x 41.5 mm

Lens mount : Mamiya 645 AF Mount, compatible with M645 Mount (manual focus confirmation, focus aid,

stopped-down exposure metering)

Viewfinder : Fixed prism viewfinder magnification x0.71; built-in diopter adjustment (-2.5 to +0.5, optional

diopter correction lenses provide adjustment ranges of -5 to -2 diopter and 0 to +3 diopter);

built-in eye-piece shutter

Focusing screen : Interchangeable, Matte (standard), Checker, and Microprism Type C for Non-AF M645 lenses

Field of view : 94%* of actual image

Viewfinder information : Focus mark, defocus mark, warning mark, aperture value, shutter speed, metering mode (A, S,

A/S), exposure compensation value (difference between set value and metered value) and flash

ready / OK lamp with TTL Metz connection

Auto focus method : TTL phase difference detection method; sensor: CCD line sensor (I+I type);

operating range: EV0 to EV18 (ISO 100)

Focus area : Displays the focus area in the viewfinder screen

AF assist beam : Activates automatically under low light, low contrast.

Range: 9m (when using AF80mm f/2.8 D lens)

AF lock : By pressing the shutter release button halfway down in the AF-S mode, or by pressing the

AFL button.

Exposure modes : Aperture Priority AE, Shutter Priority AE, programmed AE (PH, PL setting possible), and manual

AE metering mode : TTL metering, center-weighted average (AV), spot (S), and variable ratio (A-S auto)

Increments of shutter speed and aperture

: Both the shutter speed and the aperture level can be set to 1/3 or

1/2 using the electronic dial lock function

Metering range : EV 2 to EV 19 (with ISO100 and AF80mm f/2.8 D lens)

Exposure compensation : Expandable to ± 5 EV

AE lock : With AEL button; canceled by pressing the button again. When AEL button is pressed, exposure

compensation and metering difference is displayed in the viewfinder.

(+-6EV, 1/3 steps in M mode).

Shutter : Electronically controlled vertical metal focal-plane shutter. (vertical travel)

Shutter speed : AE 30 to 1/4000 sec. (1/8 step), manual 30 to 1/4000 sec. (1/2 or 1/3 steps), 1 min-60 sec.

(1 step), X, bulb (Bulb, electronically controlled), tlME, shutter curtain protection mechanism

CAMERA SPECIFICATIONS

Auto bracket shot : Enable with auto bracket button (3 frame shots, 5 frame or 7 frame shot with auto bracketing).

Specify 1/3, 1/2, 2/3 or 1EV steps.

Flash synchronization : X contact point, 1/125 seconds. Synchro speed can be changed away from terminal.

Flash control : TTL direct flash control, supports Metz SCA3002 system (SCA3952 Adapter)

Mirror up shot : Select by pressing the mirror up button.

LCD displays : Program AE mode icon, synchro mode icon, shutter speed, aperture, custom function icon,

user function icon, focal plane mode icon, lens shutter mode icon, AE lock icon, auto focus lock icon, mirror up icon, focus area icon, auto bracketing icon, self timer icon, repeat mode icon, delay mode icon, remaining battery power icon, spot metering icon, dial lock icon, flash compensation icon, exposure compensation icon, exposure compensation, delay time.

Sync terminal : X contact (sync speed 1/125 sec.)

Cable release socket : On shutter button

Remote-control terminal : On side of body; electromagnetic cable release RE401 and RS402 can be purchased separately.

Self timer : Self timer intervals can be set from 0.5 to 90 sec.: 0.5-10 sec. by the second, 10 to 90 sec. in

10 sec. units, 2 to 10 mins by the minute and 10 to 6 mins in units of 10 minutes.

Depth-of-field confirmation : Preview Button on body

Custom settings : 19 items

Tripod socket : U 1/4 inch and U 3/8 included

Power requirements : 6 AA-size batteries (alkaline-magnesium, lithium, nickel-hydride or

nickel-cadmium rechargeable batteries).

External power socket : An external battery case can be connected.

Size & weight : 6 "(W)X5 "(H)X6 "(D) / 153(W)X128(H)X152(D)mm

: 2.3 pounds / 1,030 g (body only)

* This information is based on a linear (horizontal/vertical) measurement.